

Agitation - Why is agitation required for water based cleaners?

Agitation puts fresh cleaner in contact with soils so that cleaning happens faster and better. Some form of agitation is required when using an aqueous-based cleaner. Agitation can be accomplished through re-circulation, spraying, scrubbing by hand and use of mechanical equipment.

Aircraft Cleaning - Is Simple Green® safe for cleaning aircraft?

Simple Green manufactures products specifically designed for use on aircraft. Products available on the market are Extreme Simple Green® Aircraft & Precision Cleaner and Simple Green® Pro HD. These products were initially developed for the aircraft industry and extensive testing shows that they are safe for use on aluminum, plastics, rubbers and high tech alloys, even in the most extreme circumstances. These products conform to both Boeing D6-17487P spec for general aircraft exterior cleaning and Pratt & Whitney PWA 36604revC spec for aircraft engine cleaning.

Alkaline Aqueous Solution - What is an alkaline aqueous solution?

Alkaline aqueous solutions are water-based mixtures with a pH greater than 7. Most of these types of cleaners range from a pH of 10 to 14. Simple Green® is a water-based cleaner with a pH of 9.3 to 9.5. Alkaline aqueous solutions are the most common solutions in water based cleaning. These often contain additives to improve cleaning, such as sequestering agents, emulsifiers and surfactants. Corrosion inhibitors may be necessary with some metals, especially aluminum.

Alkaline aqueous solutions remove grease, coolants, cutting oils, shop dirt, fingerprints, cosmoline, petrolatum and some water-soluble paints. They are also used with all types of liquid processes, e.g., sprays, ultrasonic, immersion and power washers. These solutions can clean to very high levels, with good filtration and rinsing. Cost per gallon is generally less than for semi-aqueous cleaners.

One should never assume that aqueous solutions can be disposed of down the drain. Your local water treatment authority or publicly owned treatment works (POTW) will have information on treatment and disposal of these cleaners. Adjustment of pH and dilution are usually required before disposal to a drain.

Aluminum - Is it safe to use Simple Green® on aluminum?

When used with caution and according to the instructions, Simple Green All-Purpose Cleaner has been safely and successfully used to clean aluminum. Simple Green All-Purpose Cleaner, Crystal Simple Green® Cleaner/Degreaser, Simple Green Pressure Washer Concentrates, and Pro Series™ Simple Green® Automotive Cleaner have been used on aircraft, automotive, industrial and consumer aluminum items for over 20 years. However, caution and common sense must be used: aluminum is a soft metal that easily corrodes with unprotected exposure to water. The aqueous-base and alkalinity of Simple Green All-Purpose Cleaner can accelerate the corrosion process. Therefore, contact times for unprotected or unpainted aluminum surfaces should be kept as brief as the job will allow - never for more than 10 minutes. Large cleaning jobs should be conducted in smaller-area stages to achieve lower contact time. Rinsing after cleaning should always be extremely thorough - paying special attention to flush out cracks and crevices to remove all Simple Green® product residues. Unfinished, uncoated or unpainted aluminum cleaned with Simple Green products should receive some sort of protectant after cleaning to prevent oxidation.

Simple Green has also developed break-through water based cleaners that are safe for use on metals, plastics, rubber and high tech alloys. Extreme Simple Green® Aircraft & Precision Cleaner and Simple Green® Pro HD are available on both the industrial and retail markets, respectively. These products were initially developed for the aircraft industry and extensive testing shows that they are safe and effective on a variety of metals and other sensitive surfaces even in the most extreme circumstances.

Simple Green® Stainless Steel One Step Cleaner & Polish is another option for cleaning polished aluminum. This product is designed for light duty metal cleaning and polishing.

Ammonia - Can I mix Simple Green® with ammonia?

No. We don't recommend mixing ammonia with Simple Green because mixing will detract from the cleaning ability of Simple Green and from the disinfecting or cleaning abilities of ammonia. You will achieve better cleaning results if Simple Green is used separately from ammonia. Additionally, although there is no bleach or ammonia in Simple Green, should you accidentally mix a bleach product (chlorinated product) with an ammonia product (ammoniated product), toxic fumes can result that could cause serious, even fatal, health risks. Therefore, our recommendation is that you never mix household chemicals.

Ammonia - Does Simple Green® contain ammonia?

No, Simple Green does not contain ammonia.

Animal Testing - Does Simple Green® test on animals?

Sunshine Makers, Inc., the maker of Simple Green, does not currently test on animals. Previous toxicity testing (done in the early 1980's)

was conducted on animals per government requirements at the time (Occupational Safety and Health Standards, Subpart Z, Toxic and Hazardous Substances Hazard Communication Standard Section 1910.1200 issued under 5 U.S.C. 553). Simple Green is more than just a household cleaner; it is used extensively in the industrial and commercial marketplace. The OSHA Toxic and Hazardous Substances Act is designed to protect workers from exposure to hazardous substances. Because the non-toxicity of Simple Green was determined, we no longer test on animals.

Simple Green has been used all over the world to save the lives of birds and animals caught in oil spills and chemical lagoons, because it enables them to be cleaned and then returned to the wild with no ill effects. Simple Green has also been used to maintain safe and clean environments for animals, fish and birds that are temporary guests of veterinary clinics and wildlife rehabilitation centers (such as The World Bird Sanctuary, The Marine Mammal Stranding Center, and the Dolphin Rescue Center,) as well as for those animals that are permanent residents of zoos, aviaries, and aquatic centers (The National Zoo, Shedd Aquarium, Wellington Zoo, and Monterey Bay Aquarium are a few examples.) We hope that you will take this into consideration when making your evaluation.

Until such time as government agencies stop requiring animal tests in order to prove that products are safe for the workplace, or science comes up with affordable, accurate tests to determine toxicity, irritancy, carcinogenicity, mutagenicity, and other hazard classifications that do not involve animal tests, this conflict will exist.

Biodegradable - Is Simple Green® biodegradable?

Yes. Simple Green is readily decomposed by naturally occurring microorganisms. Simple Green meets the Organization for Economic Cooperation and Development's (OECD) requirements for ready biodegradability. ("Ready" biodegradability is the most biodegradable classification that a product can achieve.) **Simple Green is readily biodegradable under a strict and rigorous definition.**

Biodegradable - What is the definition of biodegradable?

Biodegradable means capable of being decomposed back into elemental components by biological agents, especially bacteria. Biodegradability is associated with the use of an item as a nutrient source by some organism within the environment.

Bleach - Can I mix Simple Green® with bleach?

No. We don't recommend mixing bleach with Simple Green because mixing will detract from the cleaning ability of Simple Green and from the disinfecting, whitening, or cleaning abilities of bleach. You will achieve better cleaning results if Simple Green is used separately from bleach. Additionally, although there is no bleach or ammonia in Simple Green, should you accidentally mix a bleach product (chlorinated product) with an ammonia product (ammoniated product), toxic fumes can result that could cause serious, even fatal, health risks. Therefore, our recommendation is that you never mix household chemicals.

Carbon Remover - Can Simple Green® be used to remove carbon based soils?

Yes, Simple Green is an excellent carbon remover.

Chlorofluorocarbons (CFCs) - Does Simple Green® contain CFCs?

The Montreal Protocol and the U.S. Clean Air Act Sections 602 and 611, and various international agreements outline the reduction in use and the ultimate elimination of chlorofluorocarbons (CFCs), hydro chlorofluorocarbons (HCFCs), halons and other ozone depleting chemicals. Simple Green products contain no ozone depleting substances (See Montreal Protocol, U.S. Clean Air Act and Ozone Depleting)

Citrus - Does Simple Green® contain any citrus products?

There are no citrus cleaning agents in Simple Green products. For more information, please see "Citrus extracts."

Citrus Extracts - What are the citrus extracts commonly found in other cleaning products?

Some cleaners (often referred to as "natural") contain citrus extracts. Citrus extracts found in cleaners are typically either d-Limonene, or some form of terpene. Terpenes are the oils from citrus rind. The terpenes created in nature may be effective on greases, oils and some adhesives, but most are quite flammable. The terpene, d-Limonene is on a list of suspected carcinogens.

Recently the California Air Resources Board did a study, showing that when terpenes mix with ozone they create formaldehyde. [Click here to read the Health Alert.](#)

More information about d-Limonene can be found on the [National Institutes of Health Website](#), using the Search window at the top of their home page.

Simple Green products do not contain terpenes, d-Limonene, or any citrus or pine cleaning agents.

Claims - How do I know that Simple Green®'s claims are true?

Sunshine Makers, Inc., the makers of Simple Green, has committed over \$ 3 million in research and testing by independent laboratories.

The results verify the non-toxicity and efficacy claims of Simple Green. Summaries of these tests are available on the [Simple Green All-Purpose Cleaner Material Safety Data Sheet](#).

Color Change - Why did Simple Green® turn from green to clear?

Color change is due to long exposure to sunlight and should not affect Simple Green's cleaning ability.

Color Separation (green on top and clear on bottom) - Why would Simple Green®'s color separate and is it still good?

Simple Green may separate at below freezing temperatures because it is a water-based product. After it has thawed, it can still be used without damage to product by shaking or stirring to re-mix the components that have separated.

d-Limonene - What is it? Is it safe?

For definitive scientific information about this citrus terpene, please visit the web site for the [National Institutes of Health](#), and type "d-Limonene" in their Search feature.

Recently the California Air Resources Board did a study, showing that when terpenes mix with ozone they create formaldehyde. [Click here](#) to read the Health Alert.

Simple Green® products do not contain terpenes, d-Limonene, or any citrus or pine cleaning agents.

Decontamination - Can Simple Green® be used for decontamination?

Yes. Simple Green contains emulsifiers and chelators, which make it an ideal cleaner for decontamination, especially with its exceptional rinsing properties. Simple Green has also been successfully used to remove lead dust.

Defoamers - Is Simple Green® a "foaming" cleaner?

Foaming is a built-in feature of Simple Green, which actually enhances the cleaning process. There are certain applications, however, where defoamers may need to be added to Simple Green in order to inhibit excessive foaming (for example, equipment with enclosed, high-pressure systems such as spray cabinets & carpet cleaning). For more information please call the Simple Green Technical Department at 800-228-0709.

A word of caution: when adding foreign material into Simple Green, be aware that biodegradability, toxicity and sewerability issues need to be addressed by the additive manufacturer.

Detergent - What is a detergent?

A detergent can be synthetic, organic, liquid or water-soluble. Detergents are cleaning agents that, unlike soap, are not prepared from fats and oils, are not inactivated by hard water, and have wetting-agent (enabling water to penetrate soils) and emulsifying-agent (putting oily soils into aqueous solutions) properties.

Dilution Ratios - How to measure 1:1, 1:10, 1:30, 1:50, and 1:150?

The dilution ratios for Simple Green® All-Purpose Cleaner are our suggestions for certain applications. Simple Green, being a safe and forgiving cleaner, does not have to be measured exactly to achieve excellent performance and maintain safety.

- 1:1 - equal parts Simple Green and water
- 1:10 - about 1 oz. SG per cup of water
- 1:30 - about 1 oz. SG per 1 quart of water
- 1:50 - About 1 oz. SG per 6 cups of water
- 1:150 - About 1 oz. SG per 1 gallon plus 2 cups of water

A tip for 1:150 - you only need 1 tsp of Simple Green per 3 cups of water.

For a complete list of uses and the different dilution ratios for each use, please download our [Household Applications/Dilution Ratio Chart](#) or our [Industrial Applications/Dilution Ratio Chart](#). Downloading or reading these charts requires Adobe Acrobat Reader. Or call 800-228-0709 and request a free "Dilution Chart."

Dilutions - Why are the ratios given in parts?

The dilution ratios are given in parts and not exact measurements because: (1) it allows for larger volume uses; (2) Simple Green® is an international product and this allows for the use of the metric system; and (3) it allows one to use any form of measuring device (cup, teaspoon, quart, etc.)

Disinfectant - Is Simple Green® All-Purpose Cleaner a disinfectant?

No. Simple Green All-Purpose Cleaner is non-toxic and is not able to kill germs.

Disposal - Can Simple Green® products be disposed of in a storm drain?

No. The Clean Water Act of 1995 protects surface and ground water quality by forbidding any foreign material from being put down storm drains. Do not dispose of degreasing rinseseats into or near storm drains.

(Cleaning Tip: For home vehicle washing or exterior home cleaning, allow the used Simple Green/water mixture to fall onto the ground or grass. When done cleaning, "water-in" any standing puddles of Simple Green. The non-toxic formula won't harm grass, plants, shrubs or trees - and the natural bacteria in the soil will consume the hydrocarbons [grease & oils] that come off in the rinse.)

Disposal - Are there special requirements for disposing of Simple Green®?

Simple Green is sewer disposable, however, the contaminant emulsified in the Simple Green/water solution may not be. Check with your local POTW (Publicly Owned Treatment Works) before disposing effluent into sanitary sewer drains. Never dispose of any cleaning effluents down a storm drain or into an open waterway.

Economical - What makes Simple Green® economical?

Most cleaning jobs are effectively performed at the general cleaning dilution ratio of 10-30 parts water to one part of Simple Green — some at even greater dilutions when heat, spray and agitation are added, making the product extremely economical.

You can also refer to our Cleaning Tips under our All-Purpose Cleaner in the Household Products section.

Electrolysis - How do Simple Green® and other water-based cleaners relate to electrolysis?

Electrolysis is the transfer of metal ions from one type of metal to another. Electrolysis needs a medium through which these ions can travel, and water is a good medium for this. Therefore, when cleaning metal parts or equipment, particularly in parts washing scenarios, it is best not to allow multiple metals to soak in the solution for any extended period of time. Evidence of electrolysis can be black or dull streaking on metal parts/equipment after prolonged soaking with other kinds of metals.

Emulsifier - What is an emulsifier?

An emulsifier is an ingredient used to keep soils dispersed throughout the cleaning fluid. Simple Green® contains an effective emulsifier.

EPA National Contingency Plan - What is the EPA National Contingency Plan and is Simple Green® listed?

Simple Green is on the U.S. Environmental Protection Agency's NCP Product Schedule. This listing does NOT mean that EPA approves, recommends, licenses, certifies, or authorizes the use of Simple Green on an oil discharge. The listing means only that data has been submitted to EPA as required by subpart J of the National Contingency Plan, 300.915. (Source 40 CFR section 300.920(e)). [Click here](#) to read the Product Bulletin.

Evaporation - What is the evaporation rate of Simple Green®?

Simple Green evaporates at the same rate as water.

Foul Odors - Dip Tanks & Parts Washers - What if my parts washer or dip tank begins to smell bad?

If you are experiencing foul odors from your dip tank or parts washer, you may have a bacterial contamination. (Because Simple Green® is non-toxic, bacteria can grow in containers of Simple Green - particularly when soils are added and low heat is applied to the fluid.) We recommend adding an antibacterial agent in order to prevent bacterial growth and foul odors, such as the following:

Sump Buddy™ made by Dow Chemical Company (USA & Canada 800-447-4369)

Simple Green d Pro 3® or Simple Green d Pro 5® (Contact our Technical Department at 800-228-0709)

A word of caution: when adding antibacterial or other additives into Simple Green, be aware that biodegradability, toxicity and sewerability issues need to be addressed by the additive manufacturer.

Fragrance - What type of fragrance does Simple Green® use?

Simple Green All-Purpose Cleaner contains synthetic sassafras fragrance. Other Simple Green products (Lime Scale Remover, Pro Series® Simple Green Max, etc.) contain a variety of other synthetic fragrances.

Glass - What if I used Simple Green® too strong on glass?

Simple Green All-Purpose and Crystal Simple Green® should be diluted at 150 parts water to 1 part Simple Green before use on glass, mirrored or reflective surfaces (Tip: add 1 teaspoon of SG to a 24 or 32 oz. spray bottle and fill the rest with water). If used too strong, filmy, streaky, hazy marks can result. First, attempt to remove this by wiping down the surface with a clean, non-abrasive cloth and very hot water. If the problem persists, Bon Ami, a common non-abrasive cleansing powder, will remove stubborn residue. You can find Bon Ami at most grocery stores nationwide.

Good Housekeeping Seal of Approval - What does it mean?

The seal means that the Good Housekeeping Institute has verified all usage instructions and claims on that product label. Maintaining the Good Housekeeping Seal requires a manufacturer to offer replacement or refund of defective product. Simple Green typically goes further and honors this policy if the customer is not 100% satisfied.

Grass or Plants- Is Simple Green® safe for vegetation?

Diluted Simple Green will not harm grass or flowers, but it's always a good idea to rinse foliage after it has had contact with Simple Green and to water-in Simple Green into the soil. The wetting agents in Simple Green will help retain moisture in soil.

High-alkaline, Water-based Cleaners - What are high-alkaline, water-based cleaners and are they hazardous?

The cleaning principle of these products is that the alkaline (high pH) strips the oil from the substrate (surface) and floats it on top of the water, thus allowing re-deposition of oil on the substrate (resulting in poor rinse ability.) Other problems with this cleaning mechanism are that higher alkalinity creates health and safety issues (i.e., chemical burns, choking vapors, the need for costly protective equipment, disposal difficulties, etc.) High alkaline cleaners also cause problems for sewage treatment plants. Most sanitary sewer or sewage treatment facilities regulate the pH of fluid wastes coming from manufacturing and public facilities.

History - How long has Simple Green® been available?

Since 1972. To read more about Simple Green's history, please go to our [Company History](#) section.

Ingredients – Sodium Lauryl Sulfate (SLS) & Sodium Laureth Sulfate (SLES)

The Cosmetic, Toiletry, and Fragrance Association (CTFA) and the American Cancer Society have stated that the common belief that SLES and SLS are carcinogens is an urban legend, a view confirmed by toxicology research by the Occupational Health and Safety Administration (OSHA), National Toxicology Program (NTP), and International Agency for Research on Cancer (IARC). SLES, and subsequently some of the products containing it, has sometimes been found to contain parts-per-thousand to parts-per-million levels of 1,4-dioxane, with the recommendation that these levels be monitored. The U.S. Environmental Protection Agency considers 1,4-dioxane to be a probable human carcinogen (having observed an increased incidence of cancer in controlled animal studies, but not in epidemiological studies of workers using the compound), and a known irritant (with a no-observed-adverse-effects level of 400 milligrams per cubic meter). While the U.S. Food and Drug Administration encourages manufacturers to remove this contaminant, it is not currently required by federal law. *The ingredients within our products have been screened to make sure that we are utilizing those that are strongly filtered so that they contain little-to-no 1,4 dioxane. We closely monitor these ingredients and constantly seek to utilize the safest alternatives available. While Laureth-6 and Laureth-7, also found within some of our Naturals products, are not part of the SLES family, they are ethoxylated ingredients with potential to contain 1,4 dioxane if not filtered. We monitor them as well to be sure that they do not carry 1,4 dioxane into our products.*

Ingredients - What are the ingredients in Simple Green®?

Simple Green All Purpose Cleaner is made of water, surfactants (surface-active-agents), wetting agents, emulsifiers, green colorant and fragrance. Simple Green does not contain chlorine (bleach), ammonia, formaldehyde, TSP or petroleum distillates.

Ingredients - Why aren't the ingredients listed on the label?

Simple Green® is non-toxic. Sunshine Makers, Inc. has had the required independent laboratory tests conducted to verify this. Therefore, it is not required by law to list the ingredients on the label. Simple Green's unique formula is protected under the US Trade Secrecy Act. Simple Green complies with all current labeling laws for ingredient disclosure on cleaning products. Some disclosure of ingredients will be given on a case by case basis as required by physicians, veterinarians, or highway safety agents. If you want to inquire about what ingredients are or are not found in our products, please contact the Simple Green Technical Department at 800-228-0709.

Inhalation - Is inhaling Simple Green® hazardous to my health?

Problems can result if the mist of Simple Green is breathed into the nose or throat. This is true of practically every cleaner on the market. Because Simple Green contains surfactants (surface-active-agents) and because surfactants have the ability to lift grease, oil and soils up off of surfaces, an aggravation of the mucous membranes of the nose and throat can result from breathing in misted particles of the product. This can cause sore throat, sore nose, sore sinuses, coughing and -in extreme cases- a tightness in the chest. Although uncomfortable, Simple Green is non-toxic and these are completely reversible symptoms. Persons with chronic asthma, emphysema, or other lung conditions should take precautions and avoid breathing in surfactant mists.

Care should be taken when spraying Simple Green above the level of one's head, or using mechanical applicators that create mist (pressure sprayers, steam cleaners, etc.) Additionally, Simple Green products are sold in spray bottles that create a coarse droplet spray that is not easily inhaled. If using a spray bottle other than a Simple Green spray bottle, take care not to breathe in any mist. Use Simple Green in a well-ventilated area or, in more extreme cases or cases of impaired lung condition, use of a fiber painter's mask (found in hardware and

home improvement stores) will greatly reduce the risk of inhalation problems.

Is Simple Green Nonionic and Non-deionizing?

Yes, Simple Green products are all nonionic. Simple Green products are made with non-ionic surfactants. As such, they are not able to impart a charge, nor do they readily take on a charge.

This makes Simple Green products non-ionizing, and non-deionizing. Simple Green and Crystal Simple Green are suitable for use in clean room cleaning applications, in nuclear submarine cleaning, and in other circumstances in which electrical stability of a cleaning product is imperative.

Is Simple Green® a public or privately held company?

Simple Green is a privately held company.

Laminate - Is Simple Green® safe for use on laminate flooring and other laminate surfaces?

Simple Green is safe and effective for use on laminate. See "cleaning tip's" for details on cleaning laminate surfaces with Simple Green.

Lead dust removal - Is Simple Green® able to remove lead dust?

Simple Green contains agents that act as chelators, compounds capable of forming multiple chemical bonds to a metal ion. This makes Simple Green effective for decontamination, including the removal of lead dust on old painted surfaces.

Montreal Protocol - Does Simple Green® contain CFCs or ozone depleting substances?

The Montreal Protocol, an international agreement signed on September 16, 1987, stipulated that the production and consumption of compounds that deplete the ozone in the stratosphere, such as chlorofluorocarbons (CFCs), halons and carbon tetrachloride, were to be phased out by the year 2000.

Some participating countries, including the U.S., enacted even more stringent regulations with shorter phase-out time frames. Simple Green products do not contain CFCs or ozone depletors and are safer replacements for cleaners and solvents prohibited by the Montreal Protocol. (See Chlorofluorocarbons, U.S. Clean Air Act and Ozone Depleting)

MPF® - Micro-Particulate Fractionalization™

Micro-Particulate-Fractionalization™ is the method of cleaning that Simple Green® uses. Special "surface active" agents break down large globs of oil, grease and fat, creating much smaller microscopic droplets called "micelles." Water is the catalyst for Simple Green's cleaning power. Unlike ordinary cleaners and dispersants, Simple Green's special MPF properties continue breaking down these microscopic droplets even further — far beyond normal micellization. As these droplets are made smaller and more numerous, they provide increasingly greater surface area for Simple Green and water to attack. Ultimately, instead of being merely suspended in solution, the droplets are actually dissolved into the water. The end result is a much more efficient and effective way to clean and a proven way to eliminate the re-deposition problems common to many cleaners.

MRSA - What is MRSA and how to prevent it?

MRSA, Methicillin Resistant Staphylococcus Aureus, received a lot of press in late 2007 because it became more prevalent outside of the health care setting and showed up in the community at large. USA Today ran an [in-depth story](#) about this growing epidemic on October 19th sparking even greater concern and action among school districts, health clubs, exercise and health equipment manufacturers and more.

Simple Green's answer to MRSA is [Simple Green d Pro 5®](#). For more information about this product, including contact information for those industrial and institutional distributors carrying it in your area, please call Customer Service or Technical Service at 800-228-0709 (M-F, 8am — 5pm Pacific Time)

Natural - Is Simple Green® a "natural" product? Does it contain natural ingredients?

Simple Green is not considered "natural." It is a blend of synthetic chemicals. Most people automatically believe that natural products are better than synthetic ones. However there are many things in nature that are toxic to humans or detrimental to the environment. Things such as citrus extracts, and many plants and plant extracts are toxic or harmful to humans and/or the environment. The only ingredient in Simple Green that could be considered natural is water. For more information, see [Citrus Extracts](#).

Non-Ionic Surfactants - What are non-ionic surfactants?

Simple Green® consists of non-ionic surfactants. Non-ionic surfactants carry no discrete charge when dissolved in an aqueous media, unlike anionic or cationic surfactants. Hydrophilicity in non-ionic surfactants is provided by hydrogen bonding with water and molecules. Hydrogen bonding provides solubilization (loosening or dissolving action) in neutral and alkaline solutions.

Non-Toxic - Is Simple Green® non-toxic?

Simple Green has been tested as a whole for a toxicity rating in accordance with OSHA regulations (Occupational Safety & Health Administration.) This is because Simple Green is used in the commercial workplace as well as in the consumer household. OSHA requires testing on a number of levels to assure worker protection from harmful substances.

In reality, everything is toxic in large enough quantities. A person could consume enough milk, chocolate or even water to cause death. OSHA measures a substance by a test method called the Lethal Dosage 50 (LD50.) This is a number expressed as grams of the test substance to kilograms of body weight at which 50% of the test population dies. Therefore, the smaller the number, the more toxic a substance is. For example, it might take many, many grams of soft drink per kilogram of body weight to kill 50% or more of the test subjects, where arsenic might only take less than one gram per kilogram of body weight to have the same rate of fatality. OSHA sets the ingestion toxicity limit at 5 grams per kilogram of body weight. If a substance is over 5 grams per kilogram, it is considered non-toxic - at or under 5 grams per kilogram is toxic.

Simple Green is almost three times the 5-gram minimum to be considered non-toxic. Therefore, we are able to put the words non-toxic on our label. Because our product is used in the US workplace, the testing is required by law. We are one of the very few cleaning products that you will see on the consumer cleaning product shelf that bears the words non-toxic on the label. The others are either toxic, or they are not used in the workplace and do not have to perform the testing to determine their toxicity level.

Oil Spills - How is Simple Green used in cleaning oil spills?

See "EPA National Contingency Plan"

Ozone depleting - Do Simple Green® foaming aerosol products contain ozone depleting substances?

No. All Simple Green aerosol products are CFC-free and utilize a non-CFC butane & propane propellant. The Montreal Protocol and the US Clean Air Act, Sections 602 and 611, and various international agreements outline the reduction of use, and ultimately the elimination of chlorofluorocarbons (CFCs), hydro chlorofluorocarbons (HCFCs), halons and other ozone depleting chemicals. Simple Green products do not contain any ozone depleting substances.

Ozone depleting -What causes the destruction of the ozone layer? Why is this important?

The ozone layer shields the earth from ultraviolet radiation harmful to biological life. This destruction of ozone is caused by the breakdown of certain compounds containing chlorine and/or bromine (chlorofluorocarbons or halons) which then reach the stratosphere and catalytically destroy ozone molecules (see Chlorofluorocarbons, Montreal Protocol and U.S. Clean Air Act). Simple Green® contains no ozone depleting substances.

Parts washer - Can Simple Green® be used in a parts washer and if so, how?

Use Simple Green in a parts washer at a 1:2 - 1:5 dilution with water and an optimum temperature between 100-110°F. Please be aware that, because Simple Green and Crystal Simple Green are water-based degreasers, regular metal equipment will eventually rust. It is recommended that the switch to a water-based degreaser be accompanied by a switch to either stainless-steel or thermoplastic equipment.

Simple Green brokers Parts washers with 30 gallon, 60 gallon, and 80 gallon capacity. Simple Green parts washers are made of thermoplastic, with a recirculating pump, heater and replaceable filter cartridge. Recommended temperature is to remain below 120° F. For more information on parts washers, go to the [Family of Industrial Equipment](#) page or please call the Technical Department at 800-228-0709.

Petroleum-based solvents - What are petroleum-based solvents and are they hazardous?

Also known as "solvent evaporatives", petroleum-based solvents are significant contributors to smog, and create large volumes of hazardous waste. California's South Coast Air Quality Management District has ordered approximately 32,000 Southern California businesses to stop using these high-polluting solvents. In 1999, businesses in Los Angeles and other surrounding areas had to switch from solvent evaporatives to water-based detergents and other less-polluting alternatives for cleaning metal parts and machinery. California tends to set the trend for legislation in the rest of the United States in this area.

Pets - Is Simple Green® safe for use around my pets?

Yes, Simple Green is safe for use around pets. Of course, we do recommend using common sense and caution when using in pet areas, and never to leave puddles or containers of concentrate or dilute solution where pets or wildlife can drink, because Simple Green can cause upset stomachs and diarrhea, due to its deterative properties. See our cleaning tips for specific uses around pets, livestock and even birds.

pH (Acidity -to- Alkalinity) - What is the definition of pH?

pH is the negative logarithm of the effectiveness the hydrogen ion concentration or hydrogen ion activity in gram equivalents per liter, used in expressing both acidity and alkalinity on a scale whose values run from 0 to 14, with 7 representing neutrality, numbers less than 7

Increasing the acidity and numbers greater than 7 increasing the alkalinity. The pH scale is logarithmic. Each scale unit equals a power of 10. Consequently, a product that has a rating of 13 is 10,000 times more alkaline/caustic than one with a rating of 9. Simple Green® All-Purpose Cleaner has a mild pH of 9.3 to 9.5. Go to our [pH Scale](#) to see how this compares to other substances and household cleaners, and to get a visual understanding of the pH scale.

pH is an important factor to consider when choosing or recommending cleaners or degreasers. Cleaners at both ends of the scale (14 & 0) can be effective cleaners, however they are more likely to be environmentally hazardous or present serious health hazards. The challenge in choosing a product is finding a balance of both safety and effectiveness. Simple Green meets both of these qualifications.

pH - How does pH affect disposal?

The pH scale is one of the factors used to evaluate whether a product can be discharged into a sanitary sewer. The national average rating for approved sewerability is 10.3

pH - What is the pH of Simple Green®?

Simple Green's and Crystal Simple Green's pH is 9.3-9.5. Most competitive aqueous-based products are in the 12 range on the pH scale, making them 500 times more caustic than Simple Green. A 12 pH would necessitate the use of rubber gloves, chemical goggles, etc.

Rather than use a high pH to compensate for cleaning ability, Simple Green's cleaning principal is the MPF (Micro-Particulate-Fractionation™) process, which literally breaks oil and grease down to the molecular level. This unique process is what makes Simple Green so effective. Go to our [pH Scale](#) to see how Simple Green's pH compares to other substances and household cleaners.

Plastic Packaging - What type of plastic packaging does Simple Green® use?

Simple Green is being packaged in PETE (Polyethylene Terephthalate) and HDPE (High Density Polyethylene). In addition, we have been searching for more packaging that utilizes post-consumer recycled plastic and source-reduced plastic. In 2007, Simple Green introduced to the marketplace the very first 100% PETE bottle with a handle.

Pressure Washers & Power Washers - Are Simple Green® products pressure washer safe?

Simple Green is pressure washer safe. Simple Green also offers products specifically designed for use in pressure washers. These pressure washer concentrates can be located on the [Products](#) page of the Simple Green website.

Recycling - Are Simple Green® containers recyclable?

Yes. Whether packaged in a PETE spray bottle, or an HDPE drum, Simple Green packaging is 99.9% readily recyclable. Additionally, because Simple Green is non-toxic, containers can be rinsed well with water and used for other purposes. **If storing something other than Simple Green in a Simple Green container, be sure to remove the Simple Green label and mark the container with information about the new contents.**

***Note: Do not reuse disinfectant containers**

Replaces what products - What products can I replace with Simple Green® All-Purpose Cleaner?

Solvents, evaporative, petroleum-based, d-Limonene, terpenes, pine-oil cleaners or other hazardous solvents, task-specific cleaners, window cleaners and many more...

Resale - Can you re-package or pre-dilute Simple Green® for resale?

No.

Rinseability - Does Simple Green® rinse easily?

Simple Green rinses residue-free and is an exceptional cleaner for paint prep and cleaning. If you are involved in the pharmaceutical or electronics industry and have concerns regarding even microscopic levels of residue, call 800-228-0709 to receive information on Crystal Simple Green® and its excellent rinse features. Crystal Simple Green does not contain the added fragrance or color found in Simple Green All-Purpose Cleaner.

Rosin Flux - Can Simple Green® be used to clean rosin flux?

Simple Green will remove many fluxes, including rosin flux from printed circuit boards. Other excellent choices for this application are Extreme Simple Green® Aircraft & Precision Cleaner, Simple Green® Pro HD, and Simple Green® Stencil Cleaner and Solder-Paste Remover.

Rust Problems - How can I still use Simple Green® to clean but also address rusting or metals corrosion?

Whether an aqueous-based product, chlorinated solvent, caustic or citrus/d-limonene type cleaner is used, the cleaned metal will begin to oxidize or rust. Many factors, including time, temperature, humidity and type of metal influence the rate of oxidation. Simple Green is an aqueous-based cleaner. When bare metal is cleaned and degreased, all barrier coatings (i.e. oil, grease, lubricants, cutting oils, etc.) are

removed. If a rust inhibitor or protectant spray is required, please call 800-228-0709 for more information. A word of caution: when adding foreign materials into Simple Green, be aware that toxicity, biodegradability and sewer ability issues need to be addressed by the additive manufacturer.

Rust Problems - Is Simple Green® recommended for removing rust? What if I have a rust problem?

Rust is an alkaline soil created by the corrosion and oxidation of iron in metals. Simple Green is an alkaline aqueous-based cleaner and, as such, is not the best choice for removing rust. Alkaline soils typically require acidic solutions to effectively remove them. A good choice to try is Simple Green® Lime Scale Remover. On certain surfaces, with the correct contact time, rust can be removed by this product. For more details, please contact the Technical Department at (800) 228-0709.

Septic Safe - Is Simple Green® safe for septic systems?

Yes - when used according to directions, Simple Green is septic safe. It will not affect the good bacteria or enzymes that keep a septic system free flowing.

Shampooing Carpets to Address Pet Urine Problems – Pre-treating is key . . .

Although not as severe as urine salt dispersion from steam cleaning, wet shampooing of your carpets can also transfer urine salts over a broader area than where they were initially concentrated. Therefore, pre-treat all spots with Simple Green Pet Stain & Odor Remover before shampooing your carpet. Users of Simple Green Pet Stain & Odor Remover have had nice results with pre-treating spots, and then putting the product into the carpet cleaning machine to clean a broader area and even out "clean spots" left at the spot-treated areas. Simple Green also makes several other carpet products that are specifically designed to be used in the pre-spray and extraction carpet cleaning process. Check www.simplegreen.com for more information.

Whether steam cleaning or shampooing, always be sure to extract as much fluid as possible from your carpets. This can be time-consuming, but the results are worth it. Once extraction is done, you should not be able to place your hand on your carpet and come away with a wet hand. A slightly damp hand is fine, but no visible wetness. If wetness exists, perform extraction on the carpet again. A dry carpet is a happy (and non-smelly) carpet!

Shelf Life - What is the shelf life of Simple Green®?

Simple Green has an indefinite shelf life in unopened containers. While the product remains good indefinitely, Simple Green can degrade the plastic container after 4+ years - so it is important to use the product before the container cracks or breaks.

Simple Green - What is Simple Green®?

An all-purpose cleaner/degreaser/deodorizer used as a safer alternative to hazardous and toxic cleaners for removing grease, oil and dirt.

Solvent Evaporative Cleaners - What are solvent evaporative cleaners? Are they hazardous?

Solvent evaporative cleaners can be found in a number of household products. Mineral spirits, Xylene, 1-1-1 Trichloroethylene, Perchloroethylene and all other chlorinated and halogenated solvents present hazards to the user and the environment. These products soften oils and greases to allow for separation from the substrate. Along with environmental, health and safety concerns, there are complications with the disposal of these solvents.

Solvents - What is a solvent?

A product designed to clean a component or assembly by dissolving the contaminants present on its surface. Also see petroleum-based solvents and solvent evaporative cleaners

Spray Bottle - Why do you put Simple Green® in a spray bottle if it can't be used straight from the bottle?

Rather than only putting Simple Green in a refill container (which is also available), we wanted to give you this sprayer to enhance cleaning. It is a unique, reusable sprayer specifically designed to be used with our product. It disperses Simple Green in droplet form instead of creating an atomized mist like most sprayers. This gives better product-to-surface contact and reduces incidence of inhaling Simple Green.

*Tip: You can utilize empty water bottles (with label removed and marked "Simple Green") to hold the full-strength Simple Green and then dilute back into the spray bottle. Water bottles with the "sports cap" (drinking cap) are particularly handy for making dilutions in the spray bottle.

Steam Cleaning Carpets to Address Pet Urine Problems – A BIG NO-NO!

DO NOT clean your carpets with a steam carpet cleaner until you are sure you have addressed all urine spots with manual cleaning first. A steam-cleaning carpet machine can actually dissolve old urine salt crystals and redeposit them throughout your entire carpet. Your carpet may not smell too bad once it has dried, but in moist or humid conditions, the results of urine salt spread via steam cleaning can be awful.

We recommend that if you are planning to have your carpets steam cleaned, you first pre-treat all spots well in advance with Simple Green Pet Stain & Odor Remover until you observe that the stains and odors are gone.

Styrofoam in Packaging - Does Simple Green® use Styrofoam in packaging?

We do not use Styrofoam in our packaging; we use cornstarch packing, which is biodegradable.

Surfactants - What is a surfactant?

A substance that, when dissolved in water, lowers the surface tension of the water and increases the solubility of organic compounds. A surfactant reduces surface tension of dirt to surface.

Temperature Recommended - Can Simple Green® be heated when cleaning? Will Simple Green freeze? At what temperature should Simple Green be stored?

Store all Simple Green products at a temperature of 110°F or below. Heat will begin to break down certain components of Simple Green when kept at temperatures above 120°F for extended periods of time, and makes it more likely that the cleaning ability of the product will be diminished. For Simple Green's aerosol products, also keep from freezing.

TSCA - What is the Toxic Substances Control Act?

Controls the exposure to and use of raw industrial chemicals not subject to other laws. The act provides for a listing of all chemicals that are to be evaluated prior to manufacture or use in the U.S. All of the components of Simple Green are listed on the "TSCA Inventory" of chemical substances maintained by the U.S. Environmental Protection Agency ("EPA").

U.S. Clean Air Act of 1990 - What is the Clean Air Act?

Required total elimination of CFC's — Class I ozone-depleting chemicals (ODC's) — by the end of 1995. Simple Green® is a safer replacement for cleaners and solvents prohibited by the U.S. Clean Air Act.

Unique - How is Simple Green® unique from other cleaners?

Simple Green is biodegradable, non-toxic, and concentrated. Simple Green is used all around households, as well as throughout commercial businesses and heavy industry. Simple Green is the answer to replacing caustic, harmful cleaners and degreasers, with one product designed with the well being of its users and the environment in mind. Simple Green's safety and environmental claims are actually credentials - backed by \$ 3 million dollars' worth of independent laboratory testing. For more information, go to product comparison under "Products".

Urine Spots and UV Light

Hand-held UV lights (commonly known as "black-lights") can be found at some pet stores or online pet product web sites (such as PetSmart & Petco) and also at some hardware or DIY home centers. Another place to find them are art stores or gag gift shops that carry black-light posters.

A black-light is a handy tool for finding urine spots when they can be smelled but are not visible to the naked eye. Your first step is to darken the room as much as possible.

Dried urine has a signature dull yellow glow. This will help you tell it apart from other things that glow such as detergents (often glow bright white or blueish-white) and lint (which glows very bright white.) Simple Green Pet Stain & Odor Remover does not fluoresce under black-light. Another characteristic of a pet urine stain is a puddle, stream, or spray shape to the stain. Cats & dogs often urinate in room corners or at the base of furniture. If your pet is a cat, also check baseboards and low wall areas as these are often additional areas where cats spray urine. Because urine may seep into carpet pads or underlying floor, you may want to lift carpet where you can and check underneath it, too.

Once the area has been cleaned, you may still see fluorescence if the urine has interacted with the carpet dye, or if more urine has drawn up from the padding into the carpet fibers. Even though the stain is no longer visible in normal light and the smell is gone, the area can still show residual fluorescence under black-light. Even if you keep treating the same spot repeatedly, it is possible that you could still see residual fluorescence. So, if the visible stain and the smell are gone upon first or second treatment, the objective of the product has been met.

Simple Green Pet Stain & Odor Remover works via a combination of biological action and through the surfactant in the product. The surfactant will handle 99% of the color of the stain. There are a few pet foods that contain actual dyes that can chemically interact with carpet dyes and form a non-biological stain on carpet or fabric that simply cannot be reversed. (Think of pouring a little bleach onto a dark fabric or carpet. The only way to cover the white bleached spot is to re-dye the fabric or carpet — and even then you might still see a color difference at the bleached area.)

The biological component of Simple Green Pet Stain & Odor Remover is a combination of several different non-harmful bacteria that produce enzymes when they are in the presence of organic soil (food) and moisture (water). Soaking a urine spot with Simple Green Pet Stain & Odor Remover unleashes the bacteria to start making enzymes to convert organic soils into digestible food for the bacteria. If the spot dries out before all organics have been consumed, some of the urine salts can still remain. It is recommended that if the stain is still visible, or the smell remains, to first wet the area with plain water and allow the bacteria to continue doing their work. If stain and smell still remain, a second application of the product is warranted.

It is much easier to eliminate urine on hard, non-absorbent surfaces such as tile floors or painted baseboards. One exception may be hardwood floors. If urine sits for too long on some hardwoods, the cellulose in the wood can actually become burned. If that happens, no cleaner will eliminate the black mark that results. Only refinishing will resolve that problem.

Soft, absorbent surfaces can be more difficult and involve repeated applications, the use of extraction equipment, applying and extraction of carpet fibers, carpet backing, carpet padding, and even the floor below. Therefore, eliminating ALL fluorescence is often not practical and is just too costly in time, money, and effort. Removal of the visible stain and of the smell is the achievement of success.

Use a black-light to locate urine stains, treat them with Simple Green Pet Stain & Odor Remover, and then enjoy the fresh, clean results!

USDA Certifications - Does Simple Green® have USDA approval?

- Simple Green: [A4](#), [A8](#), & B2 ratings. Authorized for use as a degreaser, carbon remover, floor and wall cleaner and uniform laundering in official establishments operating under the Federal meat, poultry, rabbit, shell egg grading and egg products inspection programs as long as food is not present. Simple Green has not received an A1 rating because the USDA feels the scent could mask an unsanitary condition.
- Crystal Simple Green: [A4](#), & [A8](#) ratings.
- From the USDA List of Proprietary Substances and Nonfood Compounds Authorized for use under USDA Inspection and Grading Programs

Uses/Applications of Simple Green® - Where can I use Simple Green?

Simple Green can be used for over 100 different applications. For a complete list of uses and the different dilution ratios for each use, please download our [Household Applications/Dilution Ratio Chart](#) or our [Industrial Applications/Dilution Ratio Chart](#). Downloading or reading these charts requires Adobe Acrobat Reader. Or call 800-228-0709 and request a free "Dilution Chart."

Vapor Degreaser - Is Simple Green® a Vapor Degreaser?

Simple Green is not a vapor degreaser. It is an aqueous cleaner/degreaser.

Vapor Suppressant - Can Simple Green® be used as a vapor suppressant?

Simple Green is currently being used as a vapor suppressant on bioremediation sites due to its ability to keep vapors below state and federal levels. For more information, please go to our [Bioremediation](#) page under our Industrial Product section or call the Environmental Technology Division of Sunshine Makers, Inc. at 800-228-0709.

VOC - Does Simple Green® contain VOCs?

The VOC content for Simple Green products is given on the Material Safety Data Sheet in the "Physical & Chemical Properties" section. Simple Green falls well within state and federal VOC regulations when used as labeled. [Click here](#) to view the MSDS section of our website.

VOC - What is a VOC?

VOC stands for Volatile Organic Compound. These are constituents that will evaporate at their temperature of use and which, by a photochemical reaction, will cause atmospheric oxygen to be converted into potential smog — promoting tropospheric (also known as "ground level" ozone) ozone under certain climatic conditions.

It is a federal and California State requirement to reduce VOC emissions from consumer products. All compounds known to have ozone depletion potential must be reported.

Waste Water Treatment - Can Simple Green® be used in waste water treatment?

Simple Green is currently being used in wastewater treatment plants due to its ability to break up oil and grease without harming the bacteria used in the biological system. It is also an effective odor suppressant.

Water-Based Cleaners - Is Simple Green® a water-based cleaner?

Simple Green is a water-based cleaner. See "Alkaline Aqueous Solutions – General Description" for more details.